

IN THE SPECIFICATION:

Paragraph beginning at line 12 of page 1 has been amended as follows:

The screw lock structure is ~~the~~ a structure in which a case band including a watch movement is attached with a winding stem pipe, and to a male screw section formed ~~to~~ at the outer rim of an extracase-band end section of the pipe, and a female screw section ~~located~~ located at a crown main section ~~to be fit to~~ and screwed to the male screw section of the extracase-band end section ~~is screwed~~. With such a structure, under normal circumstances, the crown main section is screwed into the outer rim of the extracase-band end section so that the crown is locked. In order to operate the watch movement, the crown main section is unscrewed from the male screw section, and after pulling out the crown, a winding stem ~~located~~ located inside of the winding stem pipe can be operated for rotation.

Paragraph beginning at line 16 of page 2 has been amended as follows:

In a portable watch with the screw lock structure, repeatedly operating the crown for rotation will cause both the ~~screwing-together~~ screwed-together female screw section of

the crown and the male screw section of the winding stem pipe to be worn out or chipped, resultantly reducing the screw lock capability.

Paragraph beginning at line 21 of page 2 has been amended as follows:

In such a case, the portable watch of JP-A-57-46181 in which the case band is brazed with the winding stem pipe does not allow exchange of components ~~located~~ located close to the crown if ~~requiring~~ removal of the winding stem pipe from the case band is required. There is thus no choice to exchange the watch exterior assembly including the case band. As such, there has been a demand for improvement thereof.

Paragraph beginning at line 3 of page 3 has been amended as follows:

With a watch having a winding stem pipe screwed into a case band, it has been considered that, in principle, exchange is possible for components including the winding stem pipe, ~~located~~ located close to the crown. Even with such a structure, however, the winding stem pipe receives rotation forces every time the crown is screwed into the winding stem pipe or every time this screwing is unscrewed. Accordingly, the screwing of the winding stem pipe into the case band

becomes loose, resultantly possibly causing the waterproof capability achieved by a waterproof gasket to be reduced.

Paragraph beginning at line 13 of page 3 has been amended as follows:

As measures against that, adhesive filling is sometimes done to the section at where the winding stem pipe and the case band are screwed together. If adhesive is used for attachment as such, the winding stem pipe becomes difficult to be removed from the case band, and in a practical sense, exchange of components ~~located~~ located close to the crown becomes impossible. As a result, there has been no choice to exchange the watch exterior assembly including the case band if the screw lock capability is reduced. As such, there has been a demand for improvement thereof.

Paragraph beginning at line 23 of page 3 has been amended as follows:

An object to be achieved by the present invention is to provide a portable watch capable of exchange of components ~~located~~ located close to the crown when the screw lock capability is reduced.

Paragraph beginning at line 1 of page 5 has been amended as follows:

In the present invention ~~and each invention in the~~ below, the case band and the winding stem pipe can be preferably made with metal exemplified by materials such as stainless steel. However, this is not restrictive, and these parts may be made of synthetic resin. In the present invention, the expression of the winding stem pipe being "playably inserted" into the pipe-attachment hole denotes the insertion state that the winding stem pipe is not press-fit but is inserted into the pipe-attachment hole without fixation ~~with not press-fitted~~, and the insertion section is allowed to be inserted or removed to/from the attachment hole from the extracase-band side. Under this insertion state, providing a slight gap (play) between the winding stem pipe and the pipe-attachment hole is considered preferable. However, substantially, there may be no need for this gap. In the present invention ~~and each invention in the~~ below, the pipe stopper may be substituted by a C-shaped or E-shaped stopper or an annular nut capable of functioning as a stopper component on its own, and the like. Other than those, it is also possible to use, as a stopper, a board section with a U-shaped groove in a piece formed to an inner frame made of synthetic resin and others arranged in the intracase-band side

(inner space of the case band) for the purpose of supporting a watch movement. If this is the case, the board section can be caused to function as a pipe stopper by fitting the U-shaped groove into the engagement groove of the intracase-band end section of the winding stem pipe. Moreover, depending on the type of the pipe stopper, the engagement groove of the intracase-band end section can be formed by an annular groove or a screw groove.

Paragraph beginning at line 4 of page 6 has been amended as follows:

In the present invention, the winding stem pipe playably inserted into the pipe-attachment hole of the case band is fixed to the case band not to rotate by the rotation-stop pin, which ~~is snagged on~~ engages both the winding stem pipe and the case band. At the same time, it is prevented from being disengaged on the extracase-band side by the pipe stopper ~~located~~ located in the intracase-band side. That is, the winding stem pipe is attached to the case band without fixation. As such, in the respect of maintenance, with the pipe stopper removed, the winding stem pipe playably inserted into the pipe-attachment hole can be pulled out to the extracase-band side.

Paragraph beginning at line 23 of page 6 has been amended as follows:

In the preferable embodiment of the present invention, the rotation-stop pin is sandwiched, in an axial direction, between a groove end of the pin-receiving groove of the winding stem pipe ~~leaving~~ located closer to the extracase-band end section and the pipe stopper. Accordingly, it is considered superior in the respect that, in order not to disengage the rotation-stop pin and to retain it at any predetermined position, there is no need to include a component specifically designed therefor.

Paragraph beginning at line 6 of page 7 has been amended as follows:

Moreover, in order to achieve the above object, the present invention provides a case band with a noncircular pipe-attachment hole opening toward an intracase-band plane and an extracase-band plane. Therein, ~~characteristically,~~ provided ~~are:~~ are an insertion section having playably inserted, to the pipe-attachment hole from outside of the case band, a winding stem pipe having an outer rim being noncircular in shape corresponding to the pipe-attachment hole, and including an intracase-band end section with an engagement groove to be arranged inside of the case band; and

an extracase-band end section including a male screw section to be screwed together with a crown in a removable manner. Further, a pipe stopper is engaged with the engagement groove provided in the intracase-band end section in a removable manner to prevent the winding stem pipe from being disengaged.

Paragraph beginning at line 6 of page 8 has been amended as follows:

In the present invention, the winding stem pipe playably inserted into the pipe-attachment hole of the case band is fixed to the case band not to rotate by the fact that the pipe and the pipe-attachment hole both being noncircular in shape. At the same time, it is prevented from being disengaged on the extracase-band side by the pipe stopper ~~locating~~ located on the intracase-band side. That is, the winding stem pipe is attached to the case band without fixation. As such, in the respect of maintenance, with the pipe stopper removed, the winding stem pipe playably inserted into the pipe-attachment hole can be pulled out to the extracase-band side.

Paragraph beginning at line 22 of page 8 has been amended as follows:

Fig. 2 is a cross-sectional view ~~cut~~ taken along an line F2-F2 ~~line~~ in Fig. 1 with a crown screw locked;

Paragraph beginning at line 21 of page 9 has been amended as follows:

The watch exterior assembly 12 is so formed that a cover glass 14 is attached to be liquidtight over the surface of a case comprised of an annular metallic case band or body 13, and a case back 15 (refer to Fig. 2) made of metal, and the like, is attached to be liquidtight over the back ~~plane~~ of the case band 13. A dial 16 and others can be seen through the cover glass 14, and the case back 15 can be removable.

Paragraph beginning at line 4 of page 10 has been amended as follows:

As shown in Fig. 2, the case band 13 has, at a part thereof, a pipe-attachment hole 17 ~~going~~ extending through the case band 13 in the radius direction. One end of the pipe-attachment hole 17 is made open to the inner or intracase-band side, that is, an intracase-band plane 13a facing to the inner space of the watch exterior assembly 12. The other end of the pipe-attachment hole 17 is made open to ~~an~~ the outer or extracase-band side, that is, an extracase-band plane 13b facing to the outside of the watch exterior assembly 12. The extracase-band plane 13b of the case band 13 includes a circular concave section 18. This concave section 18 is made larger in diameter than the pipe-attachment hole

17, and ~~goes~~ extends through the opening made on the extracase-band side of the hole 17 and is provided concentrically with the opening.

Paragraph beginning at line 2 of page 11 has been amended as follows:

In detail, the winding stem pipe 21 is provided with an insertion section 22 to be playably inserted into the pipe-attachment hole 17, an extracase-band end section 23 to be arranged on the extracase-band side, and a pin-receiving groove 24 formed ~~to~~ on the insertion section 22.

Paragraph beginning at line 7 of page 11 has been amended as follows:

The outer diameter of the insertion section 22 is made to be slightly smaller than that of the pipe-attachment hole 17. Thereby, between the pipe-attachment hole 17 and the insertion section 22, play for enabling insertion or removal of the insertion section 22 to/from the pipe-attachment hole 17, that is, a slight gap (not shown) is made. The tip section of the insertion section 22 ~~located furthest~~ located farthest from the extracase-band end section 23 forms an intracase-band end section 22a. The insertion section 22 is long enough that the intracase-band end section 22a protrudes

to the inner space of the case band 13 (inside of the case band) at the time when the winding stem pipe 21 is ~~defined by position~~ fully inserted in the extracase-band end section 23 in the axial direction.

Paragraph beginning at line 20 of page 11 has been amended as follows:

The extracase-band end section 23 is provided ~~to~~ at the other end ~~at which~~ of the insertion section 22 from the intracase-band end section 22a. ~~of the insertion section 22 is provided to be a piece.~~ The extracase-band end section 23 is made larger in diameter than the concave section 18, and at the outer rim plane thereof, formed is a male screw section 23a. The plane of the extracase-band end section 23 ~~located~~ located closer to the insertion section 22 is orthogonal to the direction of the axial line of the winding stem pipe 21, and is to be used as an abutment plane 23b abutting to the extracase-band plane 13b.

Paragraph beginning at line 5 of page 12 has been amended as follows:

To the base of the intracase-band end section 22a of the insertion section 22, that is, the part of the intracase-band end section 22a ~~located~~ located closer to the

intracase-band plane 13a which is the part protruding to the intracase-band side from the case band 13, formed is, for example, an annular engagement groove 25 opening toward the outer rim plane of this end section 22a.

Paragraph beginning at line 12 of page 12 has been amended as follows:

The pin-receiving groove 24 is provided by extending in the axial direction of the insertion section 22, and opens toward the outer rim plane of the insertion section 22. The pin-receiving groove 24 is formed to ~~aeress~~ cross the engagement groove 25 as shown in Fig. 3, and opens toward the tip plane of the insertion section 22 facing to the intracase-band side. ~~This~~ The pin-receiving groove 24 is so made as to correspond to the pin-receiving groove 19 of the caseband 13, and ~~is so made as~~ the two grooves 19 and 24, when opposed to one another, to form a circular hole, for example, opposing to the pin-receiving groove 19. Note herein that, a reference numeral 24a in Fig. 2 shows the groove end of the pin-receiving groove 24 closer to the extracase-band end section 23.

Paragraph beginning at line 24 of page 13 has been amended as follows:

A reference numeral 28 in Fig. 2 denotes an annular waterproof rubber gasket. This gasket 28 is fit in the concave section 18, and is sandwiched between the furthest plane of the concave section 18 and the abutment plane 23b of the extracase-band end section 23 by changing in shape due to its elasticity through compression, for the purpose of achieving a waterproof or watertight seal between the case band 13 and the winding stem pipe 21.

Paragraph beginning at line 1 of page 15 has been amended as follows:

Next, using as a guide the pin-receiving groove 24 opening toward the tip plane of the intracase-band end section 22a, the rotation-stop pin 26 is inserted from the intracase-band side into a hole made by the groove 24 and the pin-receiving groove 19 of the case band 13. Thus the inserted rotation-stop pin 26 ~~snags on~~ engages in both the pin-receiving grooves 19 and 24. In this manner, via the rotation-stop pin 26, the winding stem pipe 21 is prevented from rotating ~~against~~ relative to the case band 13.

Paragraph beginning at line 25 of page 15 has been amended as follows:

Fig. 2 shows the state of the case band 13 being attached with the winding stem pipe 21. In this state, the winding stem pipe 21 is biased toward the extracase-band side by the elasticity of the compressed ~~with elastic rebound of~~ the waterproof gasket 28. And the extracase-band end section 23 abutting to the extracase-band plane 13b_L and the pipe stopper 27 abutting to the intracase-band plane 13a_L sandwich the pipe-attachment hole 17 and therearound from inside and outside of the case band 13. Thus, the winding stem pipe 21 is attached to the case band 13 in the axial direction with no rattle. Further, the winding stem pipe 21 ~~is fixed to~~ engages with the case band 13 by the rotation-stop pin 26 so as not to rotate as described in the foregoing. Accordingly, the winding stem pipe 21 is attached to the case band 13 without brazing or using adhesive.

Paragraph beginning at line 21 of page 16 has been amended as follows:

A crown denoted by a reference numeral 31 in Fig. 1 is made of metal, and as shown in Fig. 2, is provided with a crown main section 32 and a crown tube section 33 extending in its entirety in the axial direction from the middle section

thereof. To the crown main section 32, an annular clearance groove 34 is provided to enclose the base section of the crown tube section 33. And a female screw section 35 is formed to the inner rim plane of the groove 34 for screw locking. The clearance groove 34 is a part into which extends the extracase-band end section 23 ~~and an exterior pipe 26~~ of the winding stem pipe 21 ~~are inserted~~. The female screw section 35 is screwed together with the male screw section 23a of the extracase-band end section 23 in a removable manner. Through such screwing, exerted is the capability for screw lock not to allow the crown 31 to accidentally rotate when the watch 11 is carried around.

Paragraph beginning at line 11 of page 17 has been amended as follows:

The crown tube section 33 is inserted into the winding stem pipe 21 from the extracase-band side. To an annular gasket attachment groove formed to the outer rim of the tube section 33, an annular waterproof rubber gasket 36 is attached. The waterproof gasket 36 is sandwiched between the inner rim plane of the winding stem pipe 21 and the outer rim plane of the crown tube section 33 by changing in shape due to its elasticity through compression, for the purpose of achieving a waterproof seal therebetween. The crown tube

section 33 is inserted with a winding stem 37 of the watch movement from the intracase-band side, and ~~accommodating~~ accommodates a coil spring 39 ~~biasing that biases~~ the winding stem 37 in the axial direction via a spring bearing 38. The watch movement rotates in relation with the rotation operation of the crown 31 ~~with when~~ the female screw section 35 ~~being is~~ disengaged ~~with from~~ the second male screw section 23a, in other words, with screw lock released. In such a manner, time adjustment and ~~others~~ other functions can be are carried out.

Paragraph beginning at line 16 of page 18 has been amended as follows:

With such assembly completed, the waterproof capability can be exerted and retained during use of the portable watch ~~under high voltage as below~~. That ,is, waterproof between the winding stem pipe 21 and the case band 13 can be secured ~~thanks~~ due to the waterproof gasket 28 sandwiched therebetween by changing in shape due to its elasticity through compression. Further, waterproof between the winding stem pipe 21 and the crown tube section 33 internally inserted therein can be secured ~~thanks~~ due to the waterproof gasket 36 sandwiched therebetween by changing in shape due to its elasticity through compression.

Paragraph beginning at line 15 of page 19 has been amended as follows:

In detail, with the crown 31 removed, by removing the pipe stopper 27 as described ~~in the above~~ hereinabove from the engagement groove 25 of the intracase-band end section 22a of the winding stem pipe 21, the winding stem pipe 21 playably inserted into the case band 13 without fixation ~~not to be separated therefrom~~ can be pulled out ~~to~~ or withdrawn from the extracase-band side along the axial direction.

Paragraph beginning at line 22 of page 19 has been amended as follows:

Accordingly, at the time of maintenance, if the winding stem pipe 21 and the crown 31 are needed to be exchanged, the winding stem pipe 21 and the crown 31 can be separately exchanged. Thanks thereto, for a person asking for repairment, there is no need to exchange the watch exterior assembly 12 including the case band 13, and the like. And, only component exchange will do, favorably reducing the cost payment. ~~What is better~~ Moreover, irrespective of whether exchange of the winding stem pipe 21 is required or not, at the time of maintenance, to clean the case band 13 by polishing the extracase-band plane 13b by buffing, for example, the winding stem pipe 21 and ~~others~~ other parts can

be removed easily. Thus, the extracase-band end section 23 thereof will be kept out of the way during the polishing operation. As such, the polishing operation can be smoothly done, and the extracase-band plane 13b can be polished with reliability.

Paragraph beginning at line 2 of page 22 has been amended as follows:

As an example of noncircular shape, the pipe-attachment hole 17 is provided with one or more plane or flat sections, more specifically, a pair of plane or flat sections 17b facing ~~to~~ each other when the winding stem pipe 21 is not inserted into the pipe-attachment hole 17. Also, corresponding to the hole structure, the outer ~~rim-plane~~ periphery of the insertion section 22 is also provided with another pair of plane or flat sections 22b (only one of those is shown). These plane sections 17b and 22b operate each as a rotation-stop plane to prevent relative rotation between the case 13 and the winding stem pipe 21. As shown in Fig. 4, the two plane or flat sections 17b and 22b are interconnected by two circular sections.

Paragraph beginning at line 11 of page 22 has been amended as follows:

The structures other than those described above are the same as those of the first embodiment. Thus, also in this second embodiment, the object of the present invention can be successfully solved with the same effects as the first embodiment. ~~What is better~~ Moreover, in the second embodiment, ~~there requires no more part~~ is required for preventing the winding stem pipe 21 from rotating against the case band 13, thereby rendering the structure simpler. Further, there is no need to process a groove so as to extend in the axial direction against the pipe-attachment hole 17 and the insertion section 22. It is thus considered preferable in terms of cost reduction.

Paragraph beginning at line 22 of page 22 has been amended as follows:

The present invention is not restrictive restricted to the above both embodiments. For example, it can be applied to portable watches such as normal wrist watches or pocket watches that do not require ~~are not asking for~~ waterproof capability under extreme conditions ~~high voltage~~.